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Sequence Listing could not be accepted due to errors.  
See attached Validation Report.  
If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).  
Reviewer: Anne Corrigan  
Timestamp: Fri Jun 08 18:59:17 EDT 2007

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\*\*\*\*\*

Reviewer Comments:

Arg Gly Leu  
370

1

Please delete the "1" at the end of the submitted file; this appears  
after Sequence 217.

\*\*\*\*\*

Application No: 10535168 Version No: 2.0

**Input Set:**

**Output Set:**

**Started:** 2007-06-08 18:26:58.885  
**Finished:** 2007-06-08 18:27:09.502  
**Elapsed:** 0 hr(s) 0 min(s) 10 sec(s) 617 ms  
**Total Warnings:** 0  
**Total Errors:** 2  
**No. of SeqIDs Defined:** 217  
**Actual SeqID Count:** 217

Error code	Error Description
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (217)

SEQUENCE LISTING

<110> Chiron SRL  
Norais, Nathalie  
Grandi, Guido

<120> Unexpected Meningococcus Surface Proteins

<130> P032364WO

<140> 10535168  
<141> 2006-06-29

<150> PCT/IB03/06281  
<151> 2003-11-17

<150> GB0226734.2  
<151> 2002-11-15

<150> GB0307131.3  
<151> 2003-03-27

<160> 217

<170> SeqWin99, version 1.02

<210> 1  
<211> 403  
<212> PRT  
<213> Neisseria meningitidis

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1 5 10 15

Leu Ile Arg Ala Asp Met Asn Val Pro Phe Lys Asp Gly Lys Ile Ser  
20 25 30

Asp Asp Thr Arg Ile Arg Ala Ser Leu Ala Ser Ile Lys Tyr Cys Val  
35 40 45

Asp Asn Gly Ala Ser Val Ile Val Met Thr His Leu Gly Arg Pro Thr  
50 55 60

Glu Gly Glu Phe His Pro Glu Asp Asp Val Ala Pro Val Ala Ala His  
65 70 75 80

Leu Gly Ser Leu Leu Gly Lys Asp Val Lys Val Leu Asn Asp Trp Arg  
85 90 95

Glu Asn Lys Pro Ala Leu Asn Ala Gly Asp Val Val Met Leu Gln Asn  
100 105 110

Val Arg Ile Asn Lys Gly Glu Lys Lys Asn Asp Leu Glu Leu Gly Lys  
115 120 125

Ala Tyr Ala Ser Leu Cys Asp Val Phe Val Asn Asp Ala Phe Gly Thr

130	135	140
Ala His Arg Ala Gln Ala Ser Thr Glu Ala Val Ala Gln Ala Ala Pro		
145	150	155
Val Ala Cys Ala Gly Val Leu Met Ala Gly Glu Leu Asp Ala Leu Gly		
165	170	175
Lys Ala Leu Lys Gln Pro Ala Arg Pro Met Val Ala Ile Val Ala Gly		
180	185	190
Ser Lys Val Ser Thr Lys Leu Thr Ile Leu Glu Ser Leu Ala Asp Lys		
195	200	205
Val Asp Gln Leu Ile Val Gly Gly Ile Ala Asn Thr Phe Leu Leu		
210	215	220
Ala Glu Gly Lys Ala Ile Gly Lys Ser Leu Ala Glu His Asp Leu Val		
225	230	235
240		
Glu Glu Ser Lys Lys Ile Met Ala Lys Met Ala Ala Lys Gly Gly Ser		
245	250	255
Val Pro Leu Pro Thr Asp Val Val Ala Lys Ala Phe Ala Ala Asp		
260	265	270
Ala Glu Ala Val Val Lys Asp Ile Ala Ala Asp Ala Glu Ala Val Val		
275	280	285
Lys Asp Ile Ala Asp Val Ala Glu Asp Glu Met Ile Leu Asp Ile Gly		
290	295	300
Pro Lys Ser Ala Ala Ala Leu Ala Asp Leu Leu Lys Ala Ala Gly Thr		
305	310	315
320		
Val Val Trp Asn Gly Pro Val Gly Val Phe Glu Phe Asp Gln Phe Ala		
325	330	335
Gly Gly Thr Lys Ala Leu Ala Glu Ala Ile Ala Gln Ser Lys Ala Phe		
340	345	350
Ser Ile Ala Gly Gly Asp Thr Leu Ala Ala Ile Ala Lys Phe Gly		
355	360	365
Val Thr Glu Gln Ile Gly Tyr Ile Ser Thr Gly Gly Gly Ala Phe Leu		
370	375	380
Glu Phe Leu Glu Gly Lys Glu Leu Pro Ala Val Ala Ala Leu Glu Lys		
385	390	395
400		
Arg Gly Ala		

<210> 2  
<211> 170  
<212> PRT  
<213> *Neisseria meningitidis*

<400> 2  
Met Asn Thr Leu Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val  
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Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln  
20 25 30  
  
Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu  
35 40 45  
  
Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp  
50 55 60  
  
Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Thr Ser Ser Glu Ile Lys  
65 70 75 80  
  
Gly Lys Tyr Val Lys Ser Val Glu Val Lys Asn Gly Val Val Thr Ala  
85 90 95  
  
Gln Met Ala Ser Ser Asn Val Asn Asn Glu Ile Lys Gly Lys Lys Leu  
100 105 110  
  
Ser Leu Trp Ala Lys Arg Gln Asn Gly Ser Val Lys Trp Phe Cys Gly  
115 120 125  
  
Gln Pro Val Thr Arg Asp Lys Ala Lys Ala Asn Asp Asp Val Thr  
130 135 140  
  
Ala Ala Ala Ala Asn Gly Lys Ile Asp Thr Lys His Leu Pro  
145 150 155 160  
  
Ser Thr Cys Arg Asp Ala Ser Asp Ala Ser  
165 170  
  
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<211> 685  
<212> PRT  
<213> Neisseria meningitidis  
  
<400> 3  
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1 5 10 15  
  
Ser Ile His Leu Gly His Met Val Glu His Ile Gln Thr Asp Val Trp  
20 25 30  
  
Val Arg Phe Gln Lys Leu Arg Gly His Ala Cys His Tyr Cys Cys Ala  
35 40 45  
  
Asp Asp Thr His Gly Thr Pro Val Met Leu Ala Ala Gln Lys Gln Gly  
50 55 60  
  
Ile Ala Pro Glu Asp Met Ile Ala Lys Val Arg Glu Glu His Leu Ala  
65 70 75 80  
  
Asp Phe Thr Gly Phe Phe Ile Gly Tyr Asp Asn Tyr Tyr Ser Thr His

85 90 95

Ser Pro Glu Asn Lys Gln Phe Ser Gln Asp Ile Tyr Arg Ala Leu Lys  
100 105 110

Ala Asn Gly Lys Ile Glu Ser Arg Val Ile Glu Gln Leu Phe Asp Pro  
115 120 125

Glu Lys Gln Met Phe Leu Pro Asp Arg Phe Val Lys Gly Glu Cys Pro  
130 135 140

Lys Cys His Ala Gln Asp Gln Tyr Gly Asp Asn Cys Glu Val Cys Gly  
145 150 155 160

Thr Thr Tyr Ser Pro Thr Glu Leu Ile Asn Pro Tyr Ser Ala Val Ser  
165 170 175

Gly Thr Lys Pro Glu Leu Arg Glu Ser Glu His Phe Phe Phe Lys Leu  
180 185 190

Gly Glu Cys Ala Asp Phe Leu Lys Ala Trp Thr Ser Gly Asn Asn Pro  
195 200 205

His Asp Gly Lys Pro His Leu Gln Ala Glu Ala Leu Asn Lys Met Lys  
210 215 220

Glu Trp Leu Gly Glu Gly Glu Glu Thr Thr Leu Ser Asp Trp Asp Ile  
225 230 235 240

Ser Arg Asp Ala Pro Tyr Phe Gly Phe Glu Ile Pro Asp Ala Pro Gly  
245 250 255

Lys Tyr Phe Tyr Val Trp Leu Asp Ala Pro Val Gly Tyr Met Ala Ser  
260 265 270

Phe Lys Asn Leu Cys Asp Arg Ile Gly Val Asp Phe Asp Glu Tyr Phe  
275 280 285

Lys Ala Asp Ser Gln Thr Glu Met Tyr His Phe Ile Gly Lys Asp Ile  
290 295 300

Leu Tyr Phe His Ala Leu Phe Trp Pro Ala Met Leu His Phe Ser Gly  
305 310 315 320

His Arg Ala Pro Thr Gly Val Tyr Ala His Gly Phe Leu Thr Val Asp  
325 330 335

Gly Gln Lys Met Ser Lys Ser Arg Gly Thr Phe Ile Thr Ala Lys Ser  
340 345 350

Tyr Leu Glu Gln Gly Leu Asn Pro Glu Trp Met Arg Tyr Tyr Ile Ala  
355 360 365

Ala Lys Leu Asn Ser Lys Ile Glu Asp Ile Asp Leu Asn Leu Gln Asp  
370 375 380

Phe Ile Ser Arg Val Asn Ser Asp Leu Val Gly Lys Tyr Val Asn Ile

385	390	395	400
Ala Ala Arg Ala Ser Gly Phe Ile Ala Lys Arg Phe Glu Gly Arg Leu			
405	410	415	
Lys Asp Val Ala Asp Ser Glu Leu Leu Ala Lys Leu Thr Ala Gln Ser			
420	425	430	
Glu Ala Ile Ala Glu Cys Tyr Glu Ser Arg Glu Tyr Ala Lys Ala Leu			
435	440	445	
Arg Asp Ile Met Ala Leu Ala Asp Ile Val Asn Glu Tyr Val Asp Ala			
450	455	460	
Asn Lys Pro Trp Glu Leu Ala Lys Gln Glu Gly Gln Asp Glu Arg Leu			
465	470	475	480
His Glu Val Cys Ser Glu Leu Ile Asn Ala Phe Thr Met Leu Thr Ala			
485	490	495	
Tyr Leu Ala Pro Val Leu Pro Gln Thr Ala Ala Asn Ala Ala Lys Phe			
500	505	510	
Leu Asn Leu Glu Ala Ile Thr Trp Ala Asn Thr Arg Asp Thr Leu Gly			
515	520	525	
Lys His Ala Ile Asn Lys Tyr Glu His Leu Met Gln Arg Val Glu Gln			
530	535	540	
Lys Gln Val Asp Asp Leu Ile Glu Ala Asn Lys Gln Ser Ile Ala Ala			
545	550	555	560
Ala Ala Ala Pro Ala Ala Glu Glu Gly Lys Tyr Glu Lys Val Ala Glu			
565	570	575	
Gln Ala Ser Phe Asp Asp Phe Met Lys Ile Asp Met Arg Val Ala Lys			
580	585	590	
Val Leu Asn Cys Glu Ala Val Glu Gly Ser Thr Lys Leu Leu Lys Phe			
595	600	605	
Asp Leu Asp Phe Gly Phe Glu Lys Arg Ile Ile Phe Ser Gly Ile Ala			
610	615	620	
Ala Ser Tyr Pro Asn Pro Ala Glu Leu Asn Gly Arg Met Val Ile Ala			
625	630	635	640
Val Ala Asn Phe Ala Pro Arg Lys Met Ala Lys Phe Gly Val Ser Glu			
645	650	655	
Gly Met Ile Leu Ser Ala Ala Thr Ala Asp Gly Lys Leu Lys Leu Leu			
660	665	670	
Asp Val Asp Thr Gly Ala Gln Pro Gly Asp Lys Val Gly			
675	680	685	

<211> 456  
<212> PRT  
<213> *Neisseria meningitidis*

<400> 4

Met	Pro	Gln	Asn	Thr	Leu	Asn	Ile	Val	Ile	Leu	Ala	Ala	Gly	Lys	Gly	
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Thr	Arg	Met	Tyr	Ser	Lys	Met	Pro	Lys	Val	Leu	His	Arg	Ile	Gly	Gly	
													20	25	30	
Lys	Pro	Met	Val	Gly	Arg	Val	Ile	Asp	Thr	Ala	Ala	Ala	Leu	Asn	Pro	
													35	40	45	
Gln	Asn	Ile	Cys	Val	Val	Ile	Gly	His	Gly	Lys	Glu	Gln	Val	Leu	Asp	
													50	55	60	
Thr	Val	Lys	Arg	Asp	Val	Val	Trp	Val	Glu	Gln	Thr	Glu	Gln	Leu	Gly	
65														70	75	80
Thr	Gly	His	Ala	Val	Lys	Thr	Ala	Leu	Pro	His	Leu	Ser	Ala	Glu	Gly	
													85	90	95	
Arg	Thr	Leu	Val	Leu	Tyr	Gly	Asp	Val	Pro	Leu	Ile	Asp	Val	Glu	Thr	
													100	105	110	
Leu	Glu	Thr	Leu	Leu	Glu	Ala	Ala	Gly	Asn	Glu	Val	Gly	Leu	Leu	Thr	
													115	120	125	
Asp	Val	Pro	Asn	Asp	Pro	Thr	Gly	Leu	Gly	Arg	Ile	Ile	Arg	Asp	Ser	
													130	135	140	
Asn	Gly	Ser	Val	Thr	Ala	Ile	Val	Glu	Glu	Lys	Asp	Ala	Asp	Ala	Val	
145														150	155	160
Gln	Lys	Ala	Val	Lys	Glu	Ile	Asn	Thr	Gly	Ile	Leu	Val	Leu	Pro	Asn	
													165	170	175	
Ala	Lys	Leu	Glu	Asn	Trp	Leu	Asn	Ser	Leu	Ser	Ser	Asn	Asn	Ala	Gln	
													180	185	190	
Gly	Glu	Tyr	Tyr	Leu	Thr	Asp	Leu	Ile	Ala	Lys	Ala	Val	Ala	Asp	Gly	
													195	200	205	
Ile	Lys	Val	His	Pro	Val	Gln	Val	Arg	Ala	Ser	His	Leu	Ala	Ala	Gly	
													210	215	220	
Val	Asn	Asn	Lys	Leu	Gln	Leu	Thr	Glu	Leu	Glu	Arg	Ile	Phe	Gln	Thr	
225														230	235	240
Glu	Gln	Ala	Gln	Glu	Leu	Leu	Lys	Ala	Gly	Val	Thr	Leu	Arg	Asp	Pro	
													245	250	255	
Ala	Arg	Phe	Asp	Leu	Arg	Gly	Arg	Leu	Lys	His	Gly	Gln	Asp	Val	Val	
													260	265	270	
Ile	Asp	Val	Asn	Cys	Ile	Phe	Glu	Gly	Asp	Ile	Glu	Leu	Gly	Asp	Asn	

275

280

285

Val Glu Ile Gly Ala Asn Cys Val Ile Lys Asn Ala Lys Ile Gly Ala  
 290 295 300

Asn Ser Lys Ile Ala Pro Phe Ser His Leu Glu Ser Cys Glu Val Gly  
 305 310 315 320

Glu Asn Asn Arg Ile Gly Pro Tyr Ala Arg Leu Arg Pro Gln Ala Arg  
 325 330 335

Leu Ala Asp Asp Val His Val Gly Asn Phe Val Glu Ile Lys Asn Ala  
 340 345 350

Ala Ile Gly Lys Gly Thr Lys Ala Asn His Leu Thr Tyr Ile Gly Asp  
 355 360 365

Ala Glu Val Gly Cys Lys Thr Asn Phe Gly Ala Gly Thr Ile Ile Ala  
 370 375 380

Asn Tyr Asp Gly Val His Lys His Lys Thr Val Ile Gly Asp Glu Val  
 385 390 395 400

Arg Ile Gly Ser Asn Cys Val Leu Val Ala Pro Val Thr Leu Gly Asn  
 405 410 415

Lys Val Thr Thr Gly Ala Gly Ser Thr Ile Thr Arg Asn Val Glu Asp  
 420 425 430

Asn Lys Leu Ala Leu Ala Arg Ala Arg Gln Thr Val Ile Glu Gly Trp  
 435 440 445

Val Arg Pro Glu Lys Asp Lys Gln  
 450 455

<210> 5  
 <211> 421  
 <212> PRT  
 <213> Neisseria meningitidis

<400> 5  
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Glu Glu Ala Gln Ile Gln Glu Thr Ala Ala Lys Ala Glu Ser Glu Leu  
 20 25 30

Ala Gln Ile Val Glu Asn Ile Lys Glu Asp Ala Glu Ser Leu Ala Glu  
 35 40 45

Ser Val Lys Gly Gln Val Glu Ser Ala Val Glu Thr Val Ser Gly Ala  
 50 55 60

Val Glu Gln Val Lys Glu Thr Val Ala Glu Met Leu Ser Glu Ala Glu  
 65 70 75 80

Glu Ala Ala Glu Lys Ala Ala Glu Gln Val Glu Ala Ala Lys Glu Ala

85	90	95
Val Ala Glu Thr Val Gly Glu Ala Val Gly Gln Val Gln Glu Ala Val		
100	105	110
Ala Thr Thr Glu Glu His Lys Leu Gly Trp Ala Ala Arg Leu Lys Gln		
115	120	125
Gly Leu Thr Lys Ser Arg Asp Lys Met Ala Lys Ser Leu Ala Gly Val		
130	135	140
Phe Gly Gly Gln Ile Asp Glu Asp Leu Tyr Glu Glu Leu Glu Thr		
145	150	155
160		
Val Leu Ile Thr Ser Asp Met Gly Met Glu Ala Thr Glu Tyr Leu Met		
165	170	175
Lys Asp Val Arg Asp Arg Val Ser Leu Lys Gly Leu Lys Asp Gly Asn		
180	185	190
Glu Leu Arg Gly Ala Leu Lys Glu Ala Leu Tyr Asp Leu Ile Lys Pro		
195	200	205
Leu Glu Lys Pro Leu Val Leu Pro Glu Thr Lys Glu Pro Phe Val Ile		
210	215	220
Met Leu Ala Gly Ile Asn Gly Ala Gly Lys Thr Thr Ser Ile Gly Lys		
225	230	235
240		
Leu Ala Lys Tyr Phe Gln Ala Gln Gly Lys Ser Val Leu Leu Ala Ala		
245	250	255
Gly Asp Thr Phe Arg Ala Ala Ala Arg Glu Gln Leu Gln Ala Trp Gly		
260	265	270
Glu Arg Asn Asn Val Thr Val Ile Ser Gln Thr Thr Gly Asp Ser Ala		
275	280	285
Ala Val Cys Phe Asp Ala Val Gln Ala Ala Lys Ala Arg Gly Ile Asp		
290	295	300
Ile Val Leu Ala Asp Thr Ala Gly Arg Leu Pro Thr Gln Leu His Leu		
305		